

**Superfund LDR Guide #2
Complying with California List Restrictions Under
Land Disposal Restrictions**



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Complying With the California List Restrictions Under Land Disposal Restrictions (LDRs)

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) include specific restrictions on the land disposal of RCRA hazardous wastes. California list wastes are a distinct category of RCRA hazardous wastes that are restricted under the land disposal restrictions (LDRs). This guide defines the California list wastes, summarizes their respective restrictions, and discusses their potential overlap with other LDR treatment standards. More detailed guidance on California list waste restrictions and Superfund compliance with the LDRs is being prepared by the Office of Solid Waste and Emergency Response (OSWER).

DEFINITION OF CALIFORNIA LIST WASTES

To be classified as a California list waste, three conditions must be met:

- (1) The waste must be a RCRA listed or characteristic waste;
- (2) The waste must be a liquid (i.e., it fails method 9095 Paint Filter Liquids Test [PFLT]), except for Halogenated Organic Compounds (HOCs), which may be liquid or non-liquid; and
- (3) The waste must exceed statutory prohibition levels for specified constituents.

The types of wastes that may be California list wastes are: free cyanides, certain metals, corrosive wastes, PCBs, and HOCs. (HOCs are compounds containing carbon and a halogen, such as fluorine, chlorine, bromine, iodine, and astatine, in their molecular formula). The Agency has limited the restricted HOCs to approximately 100 HOCs listed in Appendix III to 40 CFR Part 268. These restricted HOCs include solvents, pesticides, PCBs, and dioxins.

These hazardous wastes are referred to as California list wastes because the State of California developed regulations to restrict the land disposal of wastes containing these constituents, and Congress subsequently incorporated these provisions into the 1984 HSWA amendments to RCRA. Even if LDR treatment standards have not been promulgated for certain RCRA wastes (e.g., Third Third wastes), these wastes may be subject to California list restrictions.

If the Agency has promulgated a treatment standard for a California list hazardous waste, the waste must attain that treatment standard before land disposal. If the Agency has not set a treatment standard, the waste must be treated to below the prohibition level (or rendered non-liquid if a non-HOC waste) before it may be land disposed.

CALIFORNIA LIST LDR RESTRICTIONS

The Agency has promulgated treatment standards for PCB-containing wastes and HOC-containing wastes (except for dilute HOC wastewaters). The treatment standards for PCBs and some HOCs became effective on July 8, 1987.

The Agency has not set treatment standards for the remaining California list wastes. Instead, the Agency codified the statutory prohibition levels for corrosive wastes and dilute HOC wastewaters and allowed the hard hammer provisions to take effect for free cyanides and California list metals. The prohibitions on these wastes became effective on July 8, 1987. The effects of these restrictions are the same: prohibiting the land disposal of these wastes above the prohibition levels.

Based on a finding of inadequate treatment capacity, EPA granted a nationwide extension to the effective date for treating California list HOC wastes until July 8, 1989. The Agency subsequently rescinded the variance, and the restriction for HOC wastes became effective November 8, 1988. The Agency also granted

an extension of the effective date for HOC-containing soil and debris wastes until July 8, 1989, for soil and debris wastes not from CERCLA/RCRA corrective actions, and until November 8, 1990, for soil and debris wastes from CERCLA/RCRA corrective actions. California list wastes granted a national capacity variance from the treatment standards may be disposed of in a landfill or surface impoundment only if the receiving unit complies with minimum technology requirements (See Superfund LDR Guide #3). The prohibition levels, treatment standards, and effective dates for the California list wastes are presented in Highlight 1.

OVERLAP WITH OTHER TREATMENT STANDARDS

As noted earlier, wastes must be RCRA listed or characteristic wastes to be California list wastes. Therefore, California list wastes may also be restricted as solvent- or dioxin-containing wastes or as scheduled wastes. For wastes covered by more than one LDR standard, the LDR restrictions for the more specific waste stream generally take precedence, once the standard is promulgated. For example, F006 non-wastewaters may be restricted under the California list rule because the waste is a liquid and may contain nickel above the statutory prohibition level. The F006

treatment standard, which is expressed as a concentration level, however, takes precedence over the California list restriction (i.e., codified prohibition level).

The Agency has determined that soft hammer wastes and wastes for which national capacity variances have been granted remain subject to California list prohibitions (i.e., if either of these waste types is subject to a California list treatment standard or statutory prohibition level, that treatment standard or statutory level must be met before the waste can be land disposed). If a California list treatment standard is promulgated for a soft hammer waste, the more stringent of the restrictions apply. For example, if a non-liquid soft hammer waste contains 1,100 mg/kg total HOCs, the waste must meet the California list treatment standard of incineration or burning in a boiler or industrial furnace before land disposal. If a liquid soft hammer waste contains 510 mg/l lead (for which no California list treatment standard exists), the soft hammer restrictions apply. If treatment is not available, the waste must at least be treated below the prohibition level (i.e., 500 mg/l) or rendered non-liquid and can only be disposed of in a surface impoundment or landfill if the receiving unit meets minimum technology requirements or has an equivalent waiver.

**Highlight 1 - PROHIBITION LEVELS AND TREATMENT STANDARDS
FOR CALIFORNIA LIST WASTES**

California List Constituent	Prohibition Level	Treatment Standard	Effective Date
Free Cyanides	1000 mg/l	NONE -- hard hammer	July 8, 1987
Metals			
Arsenic	500 mg/l	NONE -- hard hammer	July 8, 1987
Cadmium	100 mg/l		
Chromium VI	500 mg/l		
Lead	500 mg/l		
Mercury	20 mg/l		
Nickel	134 mg/l		
Selenium	100 mg/l		
Thallium	130 mg/l		
Corrosives	pH < 2.0	NONE -- Codified prohibition levels	July 8, 1987
PCBs			
≥ 500 ppm	50 ppm	INCINERATION as specified under TSCA, 99.9999% DRE	July 8, 1987
≥ 50 ppm and < 500 ppm	50 ppm	INCINERATION OR THERMAL DESTRUCTION in Boiler, 99.9999% DRE	July 8, 1987
Halogenated Organic Compounds (HOCs)			
Dilute Wastewaters (<10,000 mg/kg)	1000 mg/kg	NONE -- Codified prohibition levels	July 8, 1987
Non-Dilute Wastewaters and Non-Liquids	1000 mg/kg	INCINERATION 99.99% DRE	Nov. 8, 1988
Non-RCRA/CERCLA Soil and Debris	1000 mg/kg	INCINERATION 99.99% DRE	July 8, 1989
RCRA/CERCLA Soil and Debris	1000 mg/kg	INCINERATION 99.99% DRE	Nov. 8, 1990